UNITED STATES PATENT AND TRADEMARK OFFICE

ee

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/679,085	10/02/2003	Jurgen Herre	S&ZFH031001	3524

24131   7590   04/18/2007
LERNER GREENBERG STEMER LLP
P O BOX 2480
HOLLYWOOD, FL 33022-2480

EXAMINER
SHAH, PARAS D

ART UNIT	PAPER NUMBER
2609	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/18/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

	Application No.	Applicant(s)
Office Action Summary	10/679,085	HERRE ET AL.
	Examiner	Art Unit	
	Paras Shah	2609	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>02 October 2003</u>.
2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-29</u> is/are pending in the application.
  4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) <u>1-29</u> is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.
10)☒ The drawing(s) filed on <u>26 February 2004</u> is/are: a)☐ accepted or b)☒ objected to by the Examiner.
  Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
  Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  a)☐ All   b)☐ Some * c)☐ None of:
    1.☐ Certified copies of the priority documents have been received.
    2.☐ Certified copies of the priority documents have been received in Application No. _____.
    3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
  * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☒ Information Disclosure Statement(s) (PTO/SB/08)
  Paper No(s)/Mail Date <u>See Continuation Sheet</u>.
4)☐ Interview Summary (PTO-413)
  Paper No(s)/Mail Date. _____.
5)☐ Notice of Informal Patent Application
6)☐ Other: _____.

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date :01/31/2005, 03/29/2005, 05/16/2005.

DETAILED ACTION

1.   This communication is in response to the Application filed on 10/02/2003.

Drawings

2.   The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: The stated "downmix channels 28 and 30" on page 22, line 26 and on page 23, lines 7 and 10 shows no element 28 in Figure 2. Further, Fig. 2 shown in the drawing sheet 4/7 should be labeled as Fig. 4. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

3.   The disclosure is objected to because of the following informalities: "1,5 – 2,5 kbits/s" should be changed to 1.5 – 2.5 kbits/s as found on page 2, line 32. Further, "Astereo" should be changed to A stereo as found on page 8, line 19.

Appropriate correction is required.

4.   The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: The term "composite channels" in claim 11, line 3 is not discussed in the specification. For faster prosecution, the term was interpreted to be channel created from the original channel.

5.   The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: The term "perceptual encoder" in claim 23, line 2 is not discussed in the specification. For faster prosecution, the term was interpreted to be a decoder used for decoding the downmix channels.

Claim Rejections - 35 USC § 101

6.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 28 and 29 are rejected under 35 U.S.C 101 because the claimed invention is directed to non-statutory subject matter.

As to claims 28 and 29, computer programs per se are abstract ideas and when not combined with physical structures are non-statutory. See MPEP 2106.01 [R-5].

Claim Rejections - 35 USC § 102

7.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8.   Claims 1-8, 11, 16, 19, 21, 22, 24 and 26-29 are rejected under 35 U.S.C. 102(b)

as being anticipated by Herre *et al.* (US 5,701,346).

As to claims 1, 6, 8, 21, and 28 Herre *et al.* discloses an apparatus for

processing a multi-channel audio signal, the multi-channel audio signal having at least

three original channels, comprising: means for providing a first downmix channel and a

second downmix channel (see Figure 1A, $L_{c'}$ and $R_{c'}$) (e.g. Applicant refers to the same

notation as downmix channels, respectively (see Applicant's Specification Page 25, line

14)), the first and the second downmix channels being derived from the original

channels (see Figure 1A, L, R, C, L_s, and R_s); means for calculating channel side

information for a selected original channel of the original signals, the means for

calculating being operative to calculate the channel side information (see Figure 1A,

element 1 and element 4, "Joint Stereo Coder" and col. 2, lines 62-64) (e.g. The

Applicant refers to the channel side information as being obtained from intensity stereo

or binaural cue coding (see Applicant's specification, page 13, lines 30-32)) such that a

downmix channel or a combined downmix channel including the first and the second

downmix channel, when weighted using the channel side information (see col. 1, lines

60-67), results in an approximation of the selected original channel (see col. 1, lines 60-

67) (e.g. The use of intensity coding creates a scaled version which is equivalent to a

weighted signal); and means for generating output data (see Figure 1A, element 3) (e.g.

The output of element 3), the output data including the channel side information (e.g.

Since the channel side information is determined from element 1 and 4 using intensity

stereo coding, the synthesis of the output signal is inherent since the information is used

to create the downmixed channels).

As to claim 2, Herre *et al.* discloses in which the means for generating is

operative to generate the output data such that the output data additionally include the

first downmix channel or a signal derived from the first downmix channel and the

second downmix channel or a signal derived from the second downmix channel (see

Figure 1A, elements 5, 2C, 2B, and 5) (e.g. It is inherent that once the downmixed

channels are quantized, the bit stream packer combines the two signals to form the

output (see Abstract).

As to claims 3 and 5, Herre *et al.* discloses in which the means for calculating is

operative to determine the channel side information as parametric data (see Figure 1A,

element 1 and element 4, "Joint Stereo Coder" and col. 1, lines 60-67 and col. 2, lines

62-64) not including time domain samples or spectral values (e.g. The Applicant

indicates that the parametric data is obtainable from intensity stereo information (see

Applicant's Specification, page 2, line 32-page 3, line2 and page 25, line 31).

As to claim 4, Herre *et al.* discloses in which the means for calculating is

operative to perform joint stereo coding (see Figure 1A, element 1) using a downmix

channel as a carrier channel (see Figure 1A, output of element 1 to input of element 4)

and using, as an input channel, the selected original channel (see Figure 1A, inputs to

element 1, L, R, C), to generate joint stereo parameters as channel side information for

the selected original channel (e.g. The channel side information is produced from the

use of intensity stereo coding as taught by the reference).

As to claims 7 and 24, Herre *et al.* discloses in which the original channels

include a center channel (see Figure 1A, C), which further includes a combiner (see col.

6, lines 64-67-col. 7, lines 1-2) for combining the first downmix channel and the second

downmix channel to obtain the combined downmix channel (see Figure 1A, output of

element 3 from output of element 5 into element 6); and wherein the means for

calculating the channel side information (see Figure 1A, element 1 and element 4, "Joint

Stereo Coder" and col. 2, lines 62-64) for the center channel as the selected original

channel is operative to calculate the channel side information such that the combined

downmix channel when weighted using the channel side information results in an

approximation of the original center channel (see Figure 1C, output of element 8,

multiplied by m and col. 4, lines 45-51).

As to claim 11, Herre *et al.* discloses in which the first downmix channel and the

second downmix channel are composite channels being composite of the original

channels in varying degrees data (see Figure 1A, element 1 and element 4, "Joint

Stereo Coder" and col. 1, lines 60-67), wherein the means for calculating is operative, to

use, for calculating the channel side information (see Figure 1A, element 1 and element

4, "Joint Stereo Coder" and col. 2, lines 62-64), the downmix channel among both

downmix channels, which is stronger influenced by the selected original channel when

compared to the other downmix channel (e.g. It is apparent that the use of intensity

coding analyzes the energy to keep the strength of the signals when synthesizing into

downmix channels (see col. 1, lines 60-67 and col. 7, lines 3-6)).

As to claim 16, Herre *et al.* discloses which further comprises an encoder (see

Figure 1A and lines 1-3) for encoding the first downmix channel to obtain the signal

derived from the first downmix channel or for encoding the second downmix channel to

obtain the signal derived from the second downmix channel (see Figure 1A, $L_{c'}$ and $R_{c'}$).

As to claim 19, Herre *et al.* discloses in which the means for calculating is

operative to calculate downmix energy values (see equation 2, denominator squared)

for the downmix channel or the combined downmix channel, to calculate an original

energy value for the selected original channel, and to calculate a gain factor as the

channel side information (see col. 4, lines 42-45, lines 56-60 and equation 1), the gain

factor being derived from the downmix energy value and the original energy value (see

equation 2)(e.g. The value from equation 2 is squared in order to find the energy using

the simulated signals and actual signals).

As to claims 22, 27 and 29, Herre *et al.* discloses inverse processing (see Figure

1C) (e.g. The output from 7C and 7B and output from 9 (reconstructor)), means for

providing a first downmix channel and a second downmix channel (see Figure 1C, $L_{c'}$

and $R_{c'}$) (e.g. Applicant refers to the same notation as downmix channels, respectively

(see Applicant's Specification Page 25, line 14)), the first and the second downmix

channels being derived from the original channels (see Figure 1A, L, R, C, L_s, and R_s);

means for calculating channel side information for a selected original channel of the

original signals, the means for calculating being operative to calculate the channel side

information (see Figure 1A, element 1 and Figure 1C element 8, "Joint Stereo Coder"

and col. 2, lines 62-64) (e.g. The Applicant refers to the channel side information as

being obtained from intensity stereo or binaural cue coding (see Applicant's

specification, page 13, lines 30-32)) such that a downmix channel or a combined

downmix channel including the first and the second downmix channel, when weighted

using the channel side information (see col. 1, lines 60-67), results in an approximation

of the selected original channel (see col. 1, lines 60-67) (e.g. The use of intensity coding

creates a scaled version which is equivalent to a weighted signal); and means for

generating output data (see Figure 1C, element 9) (e.g. The output of element 3),

comprising; a input data reader can be found in Figure 1A element 1.) (e.g. Applicant

refers to inverse processing as deriving the surround channels from the downmix

channels (see page 8 line 32-page 9, line 1); channel reconstructor is operative in which

the channel reconstructor (Figure 1C, output from 7C and 7B and output from 9

(reconstructor)) is operative to reconstruct an approximation for the center channel (see

Figure 1A, input of 1, "C") using channel side information (see Figure 1C, "multiplication

of "m" and col. 5, lines 45-51) for the center channel (see Figure 1C, output of element

8, "C'") and the combined downmix channel (see Figure 1A, output of element 3 from

output of element 5 into element 6).

As to claim 26, Herre *et al.* discloses further comprising a combiner (see col. 6,

lines 64-67-col. 7, lines 1-2) for combining the first downmix channel and the second

downmix channel to obtain the combined downmix channel (see Figure 1A, element 3

and outputs of element 2C and 2B).

Claim Rejections - 35 USC § 103

9.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

10.   Claims 9, 12, 13,15 and 25 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Herre *et al.* as applied to claims 1, 7, and 22 above, in view of Stoll

("MPEG Audio Layer II: A Generic Coding Standard for Two and Multichannel Sound for

DVB, DAB and Computer Multimedia, 09/2005).

As to claim 9, Herre *et al.* discloses the calculation equations for calculating the

signals Rc and Lc from the compatibility matrix (see col. 5, equations 2). However,

Herre *et al.* does not specifically disclose the incorporation of a parameter t. Stoll does

disclose the in corporation of an extra parameter α to the compatibility equations (see

page 139, right column, lines 3 and 4 (e.g. equations)) (e.g. similar to t, which is

multiplied by each channel). It would have been obvious to one of ordinary skilled in the

art at the time the invention was made to have combined the apparatus for determining

linear weights presented by Herre *et al.* with the addition of the variable α presented by

Stoll. The motivation to have combined the two references allows the prevention of

overload of the downmixed signals by attenuating the signals from the original channels

(see Stoll page 140, right column, lines 7-11), which would prevent the signals in the teachings of Herre *et al.* to be of high amplitude.

As to claims 12, 13, and 15, Herre *et al.* does not specifically disclose the output data syntax being used by a low level decoder to obtain a stereo representation of the multi-channel audio signal. Stoll does disclose the use of output data syntax by a decoder (see Figure 1, elements ISO11172-3 and ISO 13818-3) which can be used as a two channel decoder which does not use ancillary data and a decoder with multi-channel information (see Figure 3) to use the ancillary data (see page 140, left column, 2nd paragraph (under figure) lines 1-6-right column, lines 1-10).

As to claim 25, Herre *et al.* discloses in which the original audio signal includes a left channel, a left surround channel, a right channel, a right surround channel and center channel channels (see Figure 1A, L, R, C, L_s, and R_s), wherein the first downmix channel and the second downmix channel are a left downmix channel and a right downmix channel (see Figure 1A, $L_{c'}$ and $R_{c'}$), respectively, and wherein the input data include channel side information for at least three of the left channel, the left surround channel, the right channel, the right surround channel and the center channel information (see col. 1, lines 60-67), wherein the channel reconstructor (Figure 1C, output from 7C and 7B and output from 9 (reconstructor)) is operative to reconstruct an approximation for the left surround channel (see Figure 1C, output of element 9) using channel side information for the left surround channel and the left downmix channel (see Figure 1C, inputs to element 9), and to reconstruct an approximation for the right surround channel (see Figure 1C, output of element 9) using channel side information

for the right surround channel and the right downmix channel (see Figure 1C, inputs to element 9).

11.   Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Herre *et al.* as applied to claim 13 above, in view of Stoll ("MPEG Audio Layer II: A Generic Coding Standard for Two and Multichannel Sound for DVB, DAB and Computer Multimedia, 09/2005) and further in view of Miller *et al.* (US 6,442,517).

        As to claim 14, Herre *et al.* discloses the audio coding syntax being relevant to MPEG-2 standard (see col. 6, lines 60-62). Stoll discloses the use of audio signals for MPEG 1 and MPEG 2 and ancillary data field (see page 140, left column, 2nd paragraph (under figure) lines 1-6). However. Herre *et al.* and Stoll do not specifically disclose the use of an mp3. However, mp3 is a common audio encoding scheme, which is well known in the art (see Miller *et al.* col. 2, lines 63-65) (e.g. The Miller *et al.* reference describes an audio encoding method utilizing the mp3 standard). It would have been obvious at the time the invention was made to have incorporated the use of mp3 format and MPEG-2.4 (AAC) advanced audio format. The motivation to include these formats is since these particular formats are common in audio encoding (see Miller *et al.* col. 1, lines 61-65).

12.   Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Herre *et al.* as applied to claim 1 above, in view of Theile *et al.* ("MUSICAM-Surround: A Universal Multi-Channel Coding System Compatible with ISO 11172-3", 1992, October 1-4).

As to claim 10, Herre *et al.* does not specifically disclose the downmix channels

being externally supplied. Theile *et al.* does disclose the stereo channels (downmix)

being externally supplied (see page 4, 2nd paragraph, lines 1-5 and equations 6 and 7).

It would have been obvious to one of ordinary skilled in the art at the time the invention

was made to have modified the teachings presented by Herre *et al.* with the external

downmix channels presented by Theile *et al.* The motivation to have combined the two

references involves the compatibility matrix being unavailable (see page 4, 2nd

paragraph, line 4), which would prevent the generation of the output signal from the

down mix channels as presented by Herre *et al.*

13.   Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Herre *et*

al. as applied to claim 16 above, in view of Baumgarte (US PGPub 2004/0181393).

As to claim 17, Herre *et al.* discloses the signals being derived from the original

channels being downmixed (e.g. compatible) channels. Herre *et al.* does not specifically

disclose the use of a perceptual encoder (see [0025]) for a signal to be encoded into a

spectral representation, quantizing the result and then entropy encoding the quantized

representation. Baumgarte does disclose in which the encoder is a perceptual encoder

which includes means for converting a signal to be encoded into a spectral

representation (see Abstract), means for quantizing (see Figure 1, element 125) the

spectral representation using a psychoacoustic model (see Figure 1, element 110) and

means for entropy encoding a quantized spectral representation to obtain an entropy

encoded quantized spectral representation (see Figure 1, element 130). It would have

been obvious to one of ordinary skilled in the art at the time the invention was made to

have combined the apparatus for multichannel audio signal processing presented by

Herre *et al.* with the conversion of a signal to be encoded presented by Baumgarte. The

motivation to have combined the two references involves distinguishing between audio

tones and noise (see Baumgarte [0003]) that allows the channels presented by Herre *et*

al. to be noiseless and enhanced.

14.   Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Herre *et*

al. as applied to claim 17 above, in view of Baumgarte (US PGPub 2004/0181393) and

further in view of Miller *et al.* (US 6,442,517).

        As to claim 18, Herre *et al.* discloses the audio coding being relevant to MPEG-2

standard (see col. 6, lines 60-62). Baumgarte discloses the use of audio signals.

However. Herre *et al.* and Baumgarte do not specifically disclose the use of mp3 or

MPEG-2.4 (AAC) advanced audio format. However, mp3 is a common audio encoding

scheme, which is well known in the art (see Miller *et al.* col. 2, lines 63-65) (e.g. The

Miller *et al.* reference describes an audio encoding method utilizing the mp3 standard).

It would have been obvious at the time the invention was made to have incorporated the

use of mp3 format and MPEG-2.4 (AAC) advanced audio format. The motivation to

include these formats is since these particular formats are common in audio encoding

(see Miller *et al.* col. 1, lines 61-65).

15.   Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Herre *et*

al. as applied to claim 1 above, in view of Herre *et al.* ("Intensity Stereo Coding", 1994

Feb. 26-Mar 011).

As to claim 20, Herre *et al.* does not specifically disclose the calculation of

frequency dependent channel side information parameter for a plurality of frequency

bands. Herre *et al.* ("Intensity Stereo Coding") does disclose the calculation of channel

side information parameters from frequency dependent information for plurality of

frequency bands (see page 2, 5th paragraph, 6th paragraph and Figure 3) (e.g. It

should be noted that the spectral data is multiplied by the scaling parameter (which is

the channel side information) to preserve the energy envelope, in which the energy

varies for each frequency band). It would have been obvious to one of ordinary skilled

in the art at the time the invention was made to have modified the teachings presented

by Herre *et al.* with the calculation of frequency dependent channel side information as

presented by Herre *et al.* ("Intensity Stereo Coding"). The motivation to have combined

the two references involves maintaining the energy-envelope of the original audio

channels and human perception of dominant spatial cues (see Herre *et al.* ("Intensity

Stereo Coding"), 5th paragraph, lines 4-7) to maintain the signal perception of the

frequency bands from the channels presented by Herre *et al.*

16.   Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Herre *et*

al. as applied to claim 22 above, in view of Brandenburg *et al.* (US 5,0440,217).

As to claim 23, Herre *et al.* discloses a decoder (see Figure 1C and col. 4, line

15) for decoding the signal derived from the first downmix channel to obtain the

decoded version of the first downmix channel and for decoding the signal derived from

the second downmix channel to obtain a decoded version of the second downmix

channel (see Figure 1A; output of element 3 and Figure 1C, input to element 6) (e.g.

The output of 3 consists of the downmix channels, which have been found from the

outputs of 2C and 2B). Herre *et al.* does not specifically disclose the use of a perceptual

decoder for decoding the downmix channels. However, Brandenburg *et al.* does

disclose the use of a perceptual decoder (see Figure 1, element 14 and Figure 3) for

decoding audio input. It would have been obvious to one of ordinary skilled in the art at

the time the invention was made to have modified the decoder along with the downmix

channels presented by Herre *et al.* with the perceptual decoder presented by

Brandenburg *et al.* The motivation to have combined the two references involve

lowering the bit rates and to recreate the audio signal with little or no distortion (see

Brandenburg *et al.* col. 1, lines 68-col. 2, lines 1-4 and col. 5, lines 18-22) to enhance

the downmix channels when decoding as presented by Herre *et al.*

Conclusion

17.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure.

Hui (US 6,205,430) is cited to disclose a decoder for multichannel audio bit

stream.

Paraskevas *et al.* ("A Differential Perceptual Audio Coding Method with Reduced

Bitrate Requirements") is cited to disclose an audio transform coding technique.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Paras Shah whose telephone number is (571)270-1650.

The examiner can normally be reached on MON.-FRI. 7:30a.m.-5:00p.m. EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Xiao Wu can be reached on (571)272-7761. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

P.S.

03/07/2007
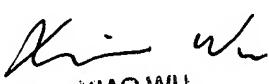
XIAO WU
SUPERVISORY PATENT EXAMINER